BRIDGE INSPECTION REPORT

	WO	CC	WE	PD
BAM	0	0	0	0

Status: Released

Ver Date 10/18/2013
Printed on: 10/18/2013

Agency: Washington State
Program Mgr: Harvey L. Coffman

Bridge No. 5/433 **Carrying** I-5 **Intersecting** S-N RAMP ER17

Bridge Name I-5 OVER S-N RAMP **Route On** 00005 **Mile Post** 132.22

Structure ID 0006145B **Route Under** 00016 **Mile Post** 0.00

Inspector's Signature GFC Cert# B1163 Co-Inspector's Signature BTP

6		Structural Adqcy	(657)	N		Pier/Abut/Protect	(679)	1960		Year Built	(332)
8		Deck Geometry	(658)	N		Scour	(680)	1973		Year Rebuilt	(336)
4	3	Underclearance	(659)	1		Bridge Rails	(684)	1 80		Oper Rating	(551)
5		Operating Level	(660)	1		Transition	(685)	1 47		Inv Rating	(554)
8		Alignment Adqcy	(661)	1		Guardrails	(686)	A		Open Close	(293)
9		WaterwayAdqcy	(662)	1		Terminals	(687)	9999		Vert Over Deck	(370)
7	5	Deck Overall	(663)	N		Revise Rating	(688)	1504	1408	Vert Under	(374)
6		Superstructure	(671)			Photos Flag	(691)	H		Vert Und Code	(378)
0		Number Utilities	(675)			Soundings Flag	(693)	2.00		Asphalt Depth	(W01)
7		Substructure	(676)			Measure Clearance	(694)		3.00	Design Curb Ht	(W02)
9		Chan/Protection	(677)						34.0	Bridge Rail Ht	(W08)
9		Culvert	(678)					60		Speed Limit	(W03)

Inspections Performed:

IT	NT	HRS	Date	Rep Type
Y	24	1.0	8/27/2013	Routine
				Fract Crit
				UW
				Special
				Interim
				UWI
				Equipment
				Damage
				Safety
				Short Span
				In Depth

Total: 1.0

Suff Rating: 86.14 80.69 FO

BMS Elements

Element	Element Description	Total	Units	State 1	State 2	State 3	State 4
12	Concrete Deck	22,912	SF	22,630	282	0	0
35	Concrete Deck Soffit	22,912	SF	22,912	0	0	0
105	Concrete Box Girder	195	LF	191	0	4	0
205	Concrete Pile/Column	20	EA	20	0	0	0
215	Concrete Abutment	300	LF	300	0	0	0
310	Elastomeric Bearing	38	EA	38	0	0	0
321	Concrete Roadway Approach Slab	5,900	SF	5,900	0	0	0
322	Bridge Impact	2	EA	2	0	0	0
331	Concrete Bridge Railing	585	LF	571	6	0	8
362	Impact Damage	2	EA	1	1	0	0
402	Open Concrete Joint	121	LF	0	112	9	0
404	Compression Seal / Concrete Header	121	LF	0	120	1	0
801	AC Overlay with Waterproofing Membrane	10,335	SF	10,055	280	0	0
803	Modified Concrete Overlay	12,577	SF	12,575	2	0	0

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Bridge No. 5/433 **Carrying** I-5 **Intersecting** S-N RAMP ER17

Bridge Name I-5 OVER S-N RAMP **Route On** 00005 **Mile Post** 132.22

Structure ID 0006145B **Route Under** 00016 **Mile Post** 0.00

Notes

0	Bridge is oriented south to north.
12	Deck is covered with two types of overlays. See Elements 801 and 803.
35	Soffit overhangs have scattered transverse hairline leaching cracks.
105	Concrete box girder webs have hairline vertical and diagonal cracks. Box girder bottom flange has scattered areas of transverse and longitudinal hairline cracks with some rusty leaching. There are exposed rusty rebars (6" maximum) due to lack of cover, predominately near Pier 3. Span 2 east edge has three 6" diameter high load impact spalls and three small patches due to low clearance.
215	Concrete abutments have hairline vertical cracks with some leaching. South abutment near the centerline is accumulating dirt and mud.
321	Approach Slabs have minor rutting and are visible in the southbound lanes only. Slabs have a construction joint between Lanes 1 and 2 that is D-cracked with small spalls at both abutments. See photo #17. North slab leading edge in Lane 2 has a 6" D-crack full width.
322	Northbound approaches have minor ACP cracks and raveling.
331	Concrete bridge railing has scattered traffic scrapes. Median railing has a 6 ft. long patch. A 8 ft. section of the east bridge rail near Pier 3 is pushed out 1" due to traffic impact. See photo #22. REPAIR #13630.
362	Span 2 has had traffic impacts. See element notes 105 and 331.
402	Joints between approach slabs and roadway slabs at both ends of bridge typically spalled and patched. The south joint has an 8" diameter x 3" deep spall, and the north joint has a 8' x 6" x 2" deep spall. See photos #23 and #25. REPAIR #13634.
404	Joints over abutments appear to have been patched since 2011 inspection. See photos #26, #27 and #28. North deck joint, SB lanes has a 12" diameter x 4" deep spall. See photo #24. REPAIR #13635.
663	Deck coded 5 because more than 1% of deck area is patched.
686	Northwest approach guardrail has impact damage with two broken posts. See photo #18. REPAIR #13632.
694	Minimum under clearance measured 14' 8' at south curbline (Temporary jersey barrier). There are numerous impact scrapes and spalls at the SE corner due to overheight impacts. See VC card and VC repair files in Files tab. See photo #21. REPAIR 13633
801	AC overlay in the northbound lanes only. Spans 2 and 3 Lane 1 have 280 sq. ft. of patches.
803	Modified concrete overlay in the southbound lanes has longitudinal and transverse hairline to narrow cracks. Near Pier 1 there is 2 sq. ft. patch.

Repairs

Repair No	Pr	R	Repair Description	Noted	Maint	Verified
13630	1	B	Repair 8 foot length of bridge rail near Pier 3 east side that is pushed out 1" due to impact damage. (updated 8/27/13 GFC/BTP)	8/30/2005		
13632	0	J	Replace bent guardrail and two broken posts at the northwest corner of the bridge.	8/24/2011		
13633	1	V	Post bridge height warnings of 14' 5" on the west entry portal of the bridge and prior to the bridge. Traffic only flows west to east under the bridge. See file 2 "VC 5_433" in files tab. This repair recommendation was provided to the project office in charge of the nalley valley bridge replacement, and posting may be addressed by them.	8/27/2013		
13634	0	J	SB lanes, west center lane spalls need repair as follows: North joint, repair 8' x 6" x 2" spall. South joint, repair 8" diameter x 3" deep spall.	8/27/2013		
13635	2	B	Repair 12" diameter x 4" deep spall in north deck joint, SB lanes.	8/27/2013		

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Bridge No. 5/433 **Carrying** I-5 **Intersecting** S-N RAMP ER17

Bridge Name I-5 OVER S-N RAMP **Route On** 00005 **Mile Post** 132.22

Structure ID 0006145B **Route Under** 00016 **Mile Post** 0.00

Inspections Performed and Resources Required

Report Type	Date	IT	Frq	Hrs	Insp	CertNo	Coinsp	Note
Routine	8/27/2013		24	1.0	GFC	B1163	BTP	

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
NBI STRUCTURE INVENTORY AND APPRAISAL REPORT (ENGLISH UNITS)

Ver Date 10/18/2013
Printed on: 10/18/2013

IDENTIFICATION

(1)	STATE NAME - WASHINGTON	530
(8)	STRUCTURE NUMBER	# 0006145B0000000
(5)	INVENTORY ROUTE (ON/UNDER) - On	1 1 1 00005
(2)	HIGHWAY AGENCY DISTRICT - OL Region	03
(3)	COUNTY CODE 53 - Pierce County	(4) PLACE CODE 00000
(6)	FEATURES INTERSECTED	S-N RAMP ER17
(7)	FACILITY CARRIED	I-5
(9)	LOCATION	4.9 N JCT SR 512
(11)	MILEPOINT	132.26
(12)	BASE HIGHWAY NETWORK - Part of network	1
(13)	LRS INV ROUTE AND SUB ROUTE	000000000500
(16)	LATITUDE	47 Deg 13 Min 46.06 Sec
(17)	LONGITUDE	122 Deg 27 Min 44.83 Sec
(98)	BORDER BRIDGE STATE CODE - Not a border bridge	
(99)	BORDER BRIDGE STRUCTURE NO. - Not a border bridge	

STRUCTURE TYPE AND MATERIAL

(43)	STRUCTURE TYPE MAIN: MATERIAL - Concrete continuous DESIGN - Box beam/girder - multiple	205
(44)	STRUCTURE TYPE APPR: MATERIAL - Other DESIGN - Other	000
(45)	NO. OF SPANS IN MAIN UNIT	3
(46)	NO. OF APPROACH SPANS	0
(107)	DECK STRUCT TYPE - Conc. CIP	1
(108)	WEARING SURFACE / PROTECTIVE SYSTEM:	
(A)	TYPE OF WEARING SURFACE - LMC or similar	3
(B)	TYPE OF MEMBRANE - None	0
(C)	TYPE OF DECK PROTECTION - None	0

AGE AND SERVICE

(27)	YEAR BUILT	1960
(106)	YEAR RECONSTRUCTED	1973
(42)	TYPE OF SERVICE ON - Highway	1
	UNDER - Highway w/wo pedestrian	1
(28)	LANES: ON STRUCTURE 7	UNDER STRUCTURE 2
(29)	AVERAGE DAILY TRAFFIC	123543
(30)	YEAR OF ADT 2010	(109) TRUCK ADT 8%
(19)	BYPASS, DETOUR LENGTH	1 mi

GEOMETRIC DATA

(48)	LENGTH OF MAXIMUM SPAN	78 ft
(49)	STRUCTURE LENGTH	195 ft
(50)	CURB OR SIDEWALK: LEFT 0.0 ft	RIGHT 0.0 ft
(51)	BRIDGE ROADWAY WIDTH CURB TO CURB	118.0 ft
(52)	DECK WIDTH OUT TO OUT	121.0 ft
(32)	APPROACH ROADWAY WIDTH (W/SHOULDERS)	108 ft
(33)	BRIDGE MEDIAN - Closed median non-m	3
(34)	SKEW 14 Deg	(35) STRUCTURE FLARED No 0
(10)	INVENTORY ROUTE MIN VERT CLEAR	99 ft 99 in
(47)	INVENTORY ROUTE TOTAL HORIZ CLEAR	66 ft 00 in
(53)	MIN VERT CLEAR OVER BRIDGE RDW	99 ft 99 in
(54)	MIN VERT UNDERCLEAR	14 ft 08 in
(55)	MIN LAT UNDERCLEAR RT	11.5 ft
(56)	MIN LAT UNDERCLEAR LT	5.3 ft

NAVIGATION DATA

(38)	NAVIGATION CONTROL - Not applicable	N
(111)	PIER PROTECTION - Not Applicable	
(39)	NAVIGATION VERTICAL CLEARANCE	000 ft
(116)	VERT-LIFT BRIDGE NAV MIN VERT CLR	
(40)	NAVIGATION HORIZONTAL CLR	0000 ft

WSBIS DATA

BRIDGE NUMBER	5/433
BRIDGE NAME	I-5 OVER S-N RAMP
CUSTODIAN	Washington State
CROSSING DESC	I-5 OVER S-N RAMP
CROSSING KEY	00005 05 13226 12 M Y
SUFFICIENCY RATING	80.69 FO

CLASSIFICATION

(112)	NBIS BRIDGE LENGTH	Y
(104)	HIGHWAY SYSTEM - On the NHS	1
(26)	FUNCTIONAL CLASS - Principal Arterial - I/S	11
(100)	DEFENSE HIGHWAY - Is an Interstate STRAHNET route	1
(101)	PARALLEL STRUCTURE - Not a parallel bridge	N
(102)	DIRECTION OF TRAFFIC - 2-way traffic	2
(103)	TEMPORARY STRUCTURE - Not Applicable	
(105)	FEDERAL LANDS HIGHWAY - Not Applicable	0
(110)	DESIGNATED NATIONAL NETWORK - Part of network	1
(20)	TOLL - Non-toll structure	3
(21)	MAINTAIN - State Highway Agency	1
(22)	OWNER - State Highway Agency	1
(37)	HISTORICAL SIGNIFICANCE - No significance	5

CONDITION

(58)	DECK	5
(59)	SUPERSTRUCTURE	6
(60)	SUBSTRUCTURE	7
(61)	CHANNEL AND CHANNEL PROTECTION	N
(62)	CULVERTS	N

LOAD RATING AND POSTING

(31)	DESIGN LOAD - HS 20	5
(63)	OPER RATING METHOD - Ld Factor (LFR) tons HS20	1
(64)	OPERATING RATING	80 T
(65)	INV RATING METHOD - Ld Factor (LFR) tons HS20	1
(66)	INVENTORY RATING	47 T
(70)	BRIDGE POSTING - Equal or above legal loads	5
(41)	STRUCT OPEN, POSTED, CLOSED - Open, no restrictions	A

APPRAISAL

(67)	STRUCTURAL EVALUATION	6
(68)	DECK GEOMETRY	8
(69)	UNDERCLEARANCES, VERTICAL & HORIZONTAL	3
(71)	WATERWAY ADEQUACY	N
(72)	APPROACH ROADWAY ALIGNMENT	8
(36)	TRAFFIC SAFETY FEATURES	1111
(113)	SCOUR CRITICAL BRIDGE	N

PROPOSED IMPROVEMENTS

(75)	TYPE OF WORK - Rehab By contract	351
(76)	LENGTH OF STRUCTURE IMPROVEMENT	245 ft
(94)	BRIDGE IMPROVEMENT COST	$10,192,000
(95)	ROADWAY IMPROVEMENT COST	$2,038,000
(96)	TOTAL PROJECT COST	$20,384,000
(97)	YEAR OF IMPROVEMENT COST ESTIMATE	2010
(114)	FUTURE ADT	165548
(115)	YEAR OF FUTURE ADT	2030

INSPECTIONS

(90)	INSPECTION DATE 08/13	(91) FREQUENCY 24 MO
(92)	CRITICAL FEATURE INSPECTION:	(93) CFI DATE
(A)	FRACTURE CRIT DETAIL - NO -	Month (A) __/__
(B)	UNDERWATER INSP - NO -	Month (B) __/__
(C)	OTHER SPECIAL INSP - NO -	Month (C) __/__

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IDENTIFICATION

(1) STATE NAME - WASHINGTON 530
(8) STRUCTURE NUMBER # 0006145B0000000
(5) INVENTORY ROUTE (ON/UNDER) - Under 2 3 7 00016
(2) HIGHWAY AGENCY DISTRICT -
(3) COUNTY CODE 53 - Pierce County (4) PLACE CODE 00000
(6) FEATURES INTERSECTED S-N RAMP ER17
(7) FACILITY CARRIED I-5
(9) LOCATION JCT I-5
(11) MILEPOINT
(12) BASE HIGHWAY NETWORK - Not part of network 0
(13) LRS INV ROUTE AND SUB ROUTE
(16) LATITUDE 47 Deg 13 Min 46.06 Sec
(17) LONGITUDE 122 Deg 27 Min 44.83 Sec
(98) BORDER BRIDGE STATE CODE - Not a border bridge
(99) BORDER BRIDGE STRUCTURE NO. - Not a border bridge

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE MAIN: MATERIAL - Concrete continuous
DESIGN - Box beam/girder - multiple 205
(44) STRUCTURE TYPE APPR: MATERIAL -
DESIGN -
(45) NO. OF SPANS IN MAIN UNIT
(46) NO. OF APPROACH SPANS
(107) DECK STRUCT TYPE -
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
(A) TYPE OF WEARING SURFACE -
(B) TYPE OF MEMBRANE -
(C) TYPE OF DECK PROTECTION -

AGE AND SERVICE

(27) YEAR BUILT 1960
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE ON - Highway 1
UNDER - Highway w/wo pedestrian 1
(28) LANES: ON STRUCTURE 7 UNDER STRUCTURE 2
(29) AVERAGE DAILY TRAFFIC 29083
(30) YEAR OF ADT 2010 (109) TRUCK ADT 6%
(19) BYPASS, DETOUR LENGTH 000

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN 78 ft
(49) STRUCTURE LENGTH 195 ft
(50) CURB OR SIDEWALK: LEFT RIGHT
(51) BRIDGE ROADWAY WIDTH CURB TO CURB
(52) DECK WIDTH OUT TO OUT
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)
(33) BRIDGE MEDIAN -
(34) SKEW Deg (35) STRUCTURE FLARED
(10) INVENTORY ROUTE MIN VERT CLEAR 16 ft 00 in
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 38 ft 00 in
(53) MIN VERT CLEAR OVER BRIDGE RDW
(54) MIN VERT UNDERCLEAR
(55) MIN LAT UNDERCLEAR RT
(56) MIN LAT UNDERCLEAR LT

NAVIGATION DATA

(38) NAVIGATION CONTROL -
(111) PIER PROTECTION - Not Applicable
(39) NAVIGATION VERTICAL CLEARANCE
(116) VERT-LIFT BRIDGE NAV MIN VERT CLR
(40) NAVIGATION HORIZONTAL CLR

WSBIS DATA

BRIDGE NUMBER 5/433
BRIDGE NAME I-5 OVER S-N RAMP
CUSTODIAN Washington State
CROSSING DESC S-N RAMP UNDER I-5
CROSSING KEY 00016 00 00000 34 S Y
SUFFICIENCY RATING

CLASSIFICATION

(112) NBIS BRIDGE LENGTH
(104) HIGHWAY SYSTEM - On the NHS 1
(26) FUNCTIONAL CLASS - Principal Arterial - I/S 11
(100) DEFENSE HIGHWAY - Not a STRAHNET route 0
(101) PARALLEL STRUCTURE - Not a parallel bridge N
(102) DIRECTION OF TRAFFIC - 1-way traffic 1
(103) TEMPORARY STRUCTURE - Not Applicable
(105) FEDERAL LANDS HIGHWAY -
(110) DESIGNATED NATIONAL NETWORK - Part of network 1
(20) TOLL - Non-toll structure 3
(21) MAINTAIN -
(22) OWNER -
(37) HISTORICAL SIGNIFICANCE -

CONDITION

(58) DECK
(59) SUPERSTRUCTURE
(60) SUBSTRUCTURE
(61) CHANNEL AND CHANNEL PROTECTION
(62) CULVERTS

LOAD RATING AND POSTING

(31) DESIGN LOAD -
(63) OPER RATING METHOD -
(64) OPERATING RATING
(65) INV RATING METHOD -
(66) INVENTORY RATING
(70) BRIDGE POSTING -
(41) STRUCT OPEN, POSTED, CLOSED -

APPRAISAL

(67) STRUCTURAL EVALUATION
(68) DECK GEOMETRY
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL
(71) WATERWAY ADEQUACY
(72) APPROACH ROADWAY ALIGNMENT
(36) TRAFFIC SAFETY FEATURES
(113) SCOUR CRITICAL BRIDGE

PROPOSED IMPROVEMENTS

(75) TYPE OF WORK -
(76) LENGTH OF STRUCTURE IMPROVEMENT
(94) BRIDGE IMPROVEMENT COST
(95) ROADWAY IMPROVEMENT COST
(96) TOTAL PROJECT COST
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114) FUTURE ADT
(115) YEAR OF FUTURE ADT

INSPECTIONS

(90) INSPECTION DATE (91) FREQUENCY MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
(A) FRACTURE CRIT DETAIL - NO - Month (A) __/__
(B) UNDERWATER INSP - NO - Month (B) __/__
(C) OTHER SPECIAL INSP - NO - Month (C) __/__